

Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility
(Version 5)

STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening: January 26, 2012

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I. PIF Information *(Copied from the PIF)*

FULL SIZE PROJECT GEF TRUST FUND

GEF PROJECT ID: 4747

PROJECT DURATION : 3

COUNTRIES : Dominican Republic

PROJECT TITLE: Stimulating Industrial Competitiveness Through Biomass-based, Grid-connected Electricity Generation

GEF AGENCIES: UNIDO

OTHER EXECUTING PARTNERS: National Energy Commission (CNE)

GEF FOCAL AREA: Climate Change

II. STAP Advisory Response *(see table below for explanation)*

Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies): **Consent**

III. Further guidance from STAP

The project aims at promoting biomass based electricity production for industrial zones in Dominican Republic. STAP is supportive of this initiative and recommends consent to the project, but suggests addressing the following concerns when developing the project brief:

1. What is the rationale for selecting biomass power over other renewable energy options? Are there any existing biomass systems in DR which show the financial and technical feasibility of the biomass power systems? Will it be the first such system?
2. Will the systems be based on biomass combustion or gasification systems? Will it be a single 2.5 MW unit or will it consist of multiple units of different capacities? How was this 2.5 MW capacity decided, will it change once the biomass resource is assessed? PPG stage should be used to decide the optimum capacity of the biomass power system; based on the biomass resource and plant load factor feasible.
3. A biomass resource assessment for the project is proposed, and it is the first critical step in decisions on capacity. What is the primary source of biomass - crop and plantation residue or from dedicated plantations? Transportation costs and CO2 emissions from transportation should be accounted for and life cycle analysis presented in the project document for CEO endorsement.
4. The PIF proposes to remove legal and policy barriers. How significant are these barriers? Generic barriers are listed and a systematic DR and biomass power system specific barrier analysis is necessary during project preparation.
5. The focus of the project seems to be establishment of a 2.5 MW biomass power utility. There are only generic statements on promoting large-scale spread of the technologies. But there is need for serious consideration of activities to promote the spread of the technology. For example - technology standardization (optimized capacities), national biomass resource map, optimized siting of biomass power plants, cost-benefit analysis, and consideration at what cost biomass and electricity will biomass power will be economical.
6. Two key challenges to promotion of biomass-based energy sources are insecurity of feedstock supply and unpredictable/under-developed government policies. The PIF does address these two barriers at some extent, but it is not clear how sustainable project outcomes will be over the long term (e.g. the typical life-time of the power plants). STAP suggests enhancing project efforts in developing robust models for feedstock supply using e.g., public-private partnerships as a viable alternative in many countries. Often regulating waste management policies in general can be conducive for biomass markets too. Market policies, feed-in tariffs, and mandatory targets for renewable energy

including biomass proved to be effective policy instruments. During project preparation it is expected that a more coherent picture on policy support will be presented.

7. The PIF states that based on "Preliminary data", biomass based electricity is cost-effective. What is the source or reference of this preliminary data - where was it obtained? Are the costs of biomass production, transport and handling activities included in final cost calculations? What capacity plants and what plant load factor were considered as the cost of power generated will depend on a whole lot of factors. The PIF indicates that costs rather than amount of energy supplies is a critical factor in industrial zones suggesting that cost consideration will be particularly important in this project. STAP recommends conducting detailed cost-benefit analysis of the entire project supply chain from biomass residues supply to power generation and waste disposal to have a full picture of anticipated costs and target interventions addressing identified cost barriers.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Consent	STAP acknowledges that on scientific/technical grounds the concept has merit. However, STAP may state its views on the concept emphasising any issues that could be improved and the proponent is invited to approach STAP for advice at any time during the development of the project brief prior to submission for CEO endorsement.
2. Minor revision required.	STAP has identified specific scientific/technical suggestions or opportunities that should be discussed with the proponent as early as possible during development of the project brief. One or more options that remain open to STAP include: <ul style="list-style-type: none"> (i) Opening a dialogue between STAP and the proponent to clarify issues (ii) Setting a review point during early stage project development and agreeing terms of reference for an independent expert to be appointed to conduct this review The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.
3. Major revision required	STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical omissions in the concept. If STAP provides this advisory response, a full explanation would also be provided. Normally, a STAP approved review will be mandatory prior to submission of the project brief for CEO endorsement. The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.